

### Claims

1. Device for ventilating and cooling the interior of a vehicle with air inlet openings (8) located in the rear in a solar cell (6)-equipped vehicle roof (5a, 5b) and at least one air guide channel (7) connected to it, characterized in that

the air guide channel (7) is restricted to the rear area (3) of the vehicle roof (5a, 5b) and on the inside has at least one fan (15) for intaking outside air (10), the bottom of the air guide channel (7) being formed by a first section (12) of a roof portion (5b) which extends in the direction from the vehicle rear to the vehicle front (3, 1) and the top of the air guide channel (7) being formed by a second section (13) of a roof portion (5a) which extends in the direction from the vehicle front to the vehicle rear (1, 3).

2. Device as claimed in claim 1, wherein the solar cells (6) in the second section (13) are mounted above the air guide channel (7) on the outside of the vehicle roof.

3. Device as claimed in claim 1 or 2, wherein the air flow (16) runs within the air guide channel (7) essentially in the lengthwise direction of the vehicle.

4. Device as claimed in one of the preceding claims, wherein the air outlet openings (9) facing the vehicle interior are located on one side of the air guide channel (7) which is turned toward the vehicle front (1).

5. Device as claimed in one of the preceding claims, wherein the fan (15) is an axial fan.

6. Device as claimed in one of the claims 1-4, wherein the fan (15) is a radial fan.

7. Device as claimed in one of the claims 4-6, wherein the air inlet openings (8), the air guide channel (7) and the air outlet openings (9) extend beyond the entire vehicle roof width.

8. Device as claimed in one of the preceding claims, wherein the cooling element (14) is a Peltier cooling element.